

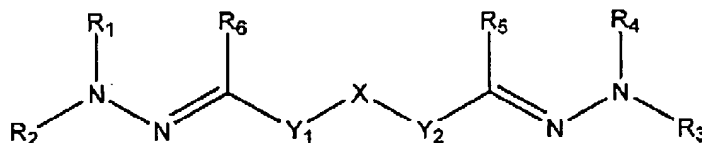
Application No. 10/789,094

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1. (Original) An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

a) a charge transport material having the following formula:



where X is a linking group;

Y₁ and Y₂ are, each independently, a phenothiazine group, a phenoxazine group, or a phenazine group;

R₁, R₂, R₃, and R₄ are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

R₅ and R₆ are, each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

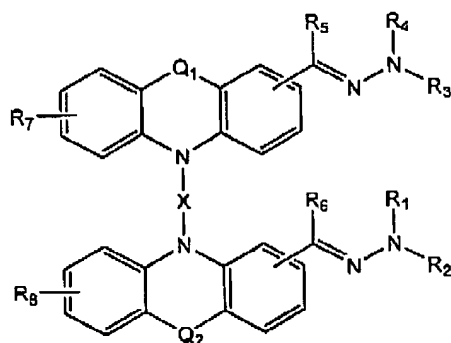
(b) a charge generating compound.

2. (Original) An organophotoreceptor according to claim 1 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a, R_b,

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R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

3. (Original) An organophotoreceptor according to claim 1 wherein the charge transport material having the following formula:



where Q_1 and Q_2 are, independently, S, O, or NR_9 where R_9 is a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_5 and R_6 , each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_7 and R_8 are, each independently, a hydrogen, a nitro group, a cyano group, a halogen, an alkoxy group, a hydroxyl group, a thiol group, an amino group, a carboxyl group, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

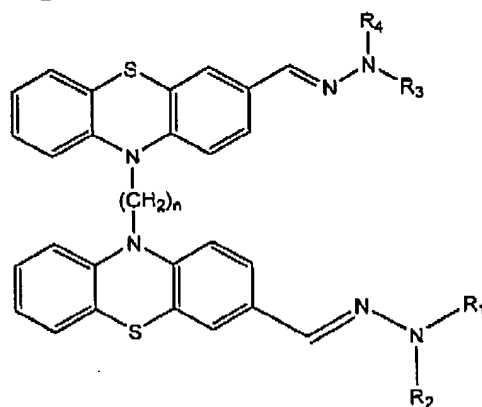
X is a linking group.

4. (Original) An organophotoreceptor according to claim 3 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b ,

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R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

5. (Original) An organophotoreceptor according to claim 3 wherein the charge transport material comprises the following formula:



where n is an integer between 1 and 30 and R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group.

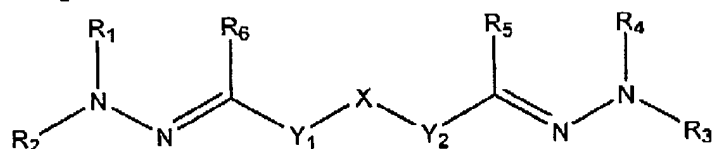
6. (Original) An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.
7. (Original) An organophotoreceptor according to claim 5 wherein the second charge transport material comprises an electron transport compound.
8. (Original) An organophotoreceptor according to claim 1 wherein said organophotoreceptor is in the form of a drum or a belt.

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9. (Original) An organophotoreceptor according to claim 1 comprising:
- (a) a charge transport layer comprising said charge transport material and a polymeric binder; and
 - (b) a charge generating layer comprising said charge generating compound and a polymeric binder.

10. (Original) An electrophotographic imaging apparatus comprising:
- (a) a light imaging component; and
 - (b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

(i) a charge transport material having the formula



where X is a linking group;

Y_1 and Y_2 are, each independently, a phenothiazine group, a phenoxazine group, or a phenazine group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

R_5 and R_6 are, each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

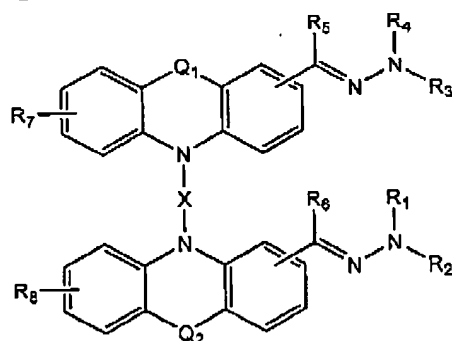
(ii) a charge generating compound.

11. (Original) An electrophotographic imaging apparatus according to claim 10 wherein X comprises a $-(\text{CH}_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f

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where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

12. (Original) An electrophotographic imaging apparatus according to claim 10 wherein the charge transport material having the following formula:



where Q_1 and Q_2 are, independently, S, O, or NR_9 where R_9 is a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_5 and R_6 , each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_7 and R_8 are, each independently, a hydrogen, a nitro group, a cyano group, a halogen, an alkoxy group, a hydroxyl group, a thiol group, an amino group, a carboxyl group, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

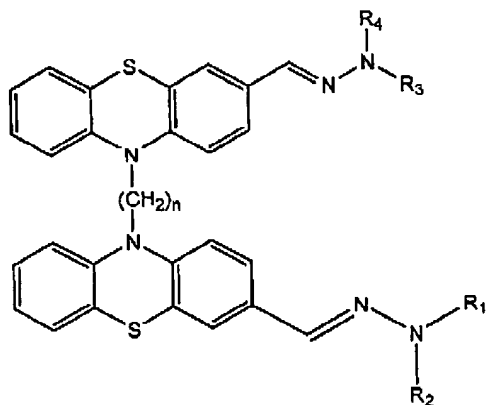
X is a linking group.

13. (Original) An electrophotographic imaging apparatus according to claim 12 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f

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where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

14. (Original) An electrophotographic imaging apparatus according to claim 12 wherein the charge transport material comprises the following formula:



where n is an integer between 1 and 30 and R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group.

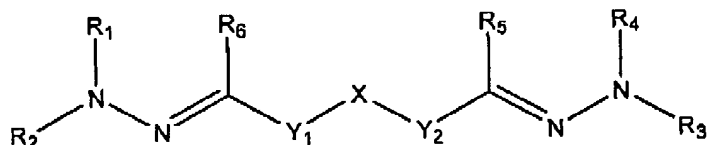
15. (Original) An electrophotographic imaging apparatus according to claim 10 wherein the photoconductive element further comprises a second charge transport material.
16. (Original) An electrophotographic imaging apparatus according to claim 15 wherein the second charge transport material comprises an electron transport compound.
17. (Original) An electrophotographic imaging apparatus according to claim 10 further comprising a toner dispenser.

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18. (Original) An electrophotographic imaging process comprising:

(a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising

(i) a charge transport material having the formula



where X is a linking group;

Y_1 and Y_2 are, each independently, a phenothiazine group, a phenoxazine group, or a phenazine group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

R_5 and R_6 are, each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

(b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

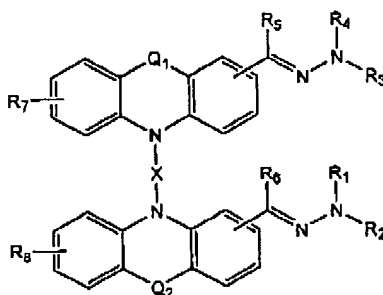
(c) contacting the surface with a toner to create a toned image; and

(d) transferring the toned image to substrate.

19. (Original) An electrophotographic imaging process according to claim 18 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

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20. (Original) An electrophotographic imaging process according to claim 18 wherein the charge transport material having the following formula:



where Q_1 and Q_2 are, independently, S, O, or NR_9 where R_9 is a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_5 and R_6 , each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

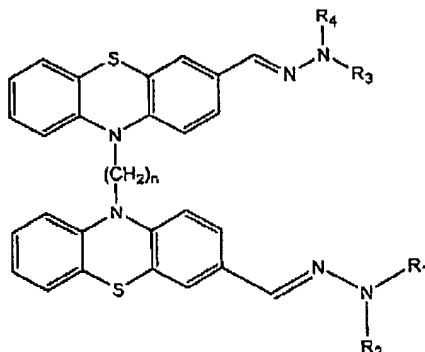
R_7 and R_8 are, each independently, a hydrogen, a nitro group, a cyano group, a halogen, an alkoxy group, a hydroxyl group, a thiol group, an amino group, a carboxyl group, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

X is a linking group.

21. (Original) An electrophotographic imaging process according to claim 20 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

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22. (Original) An electrophotographic imaging process according to claim 20 wherein the charge transport material comprises the following formula:

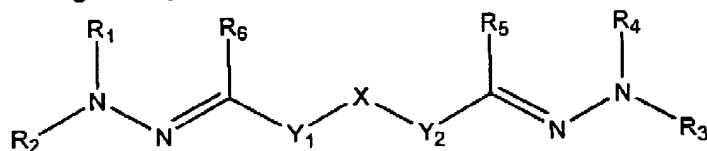


where n is an integer between 1 and 30 and R₁, R₂, R₃, and R₄ are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group.

23. (Original) An electrophotographic imaging process according to claim 18 wherein the photoconductive element further comprises a second charge transport material.

24. (Original) An electrophotographic imaging process according to claim 23 wherein the second charge transport material comprises an electron transport compound.

25. (Original) A charge transport material having the formula



where X is a linking group;

Y₁ and Y₂ are, each independently, a phenothiazine group, a phenoxazine group, or a phenazine group;

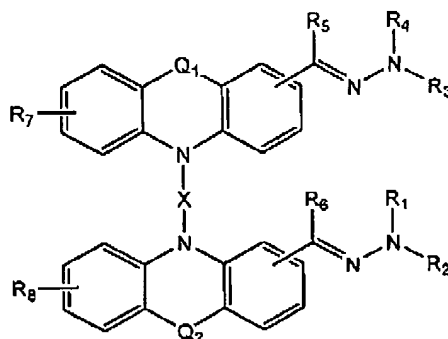
R₁, R₂, R₃, and R₄ are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

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R_5 and R_6 are, each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group.

26. (Original) A charge transport material according to claim 25 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

27. (Original) A charge transport material according to claim 25 wherein the charge transport material having the following formula:



where Q_1 and Q_2 are, independently, S, O, or NR_9 where R_9 is a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

R_5 and R_6 , each independently, a hydrogen, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group;

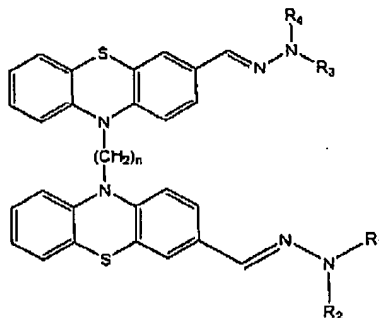
R_7 and R_8 are, each independently, a hydrogen, a nitro group, a cyano group, a halogen, an alkoxy group, a hydroxyl group, a thiol group, an amino group, a carboxyl group, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group; and

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X is a linking group.

28. (Original) A charge transport material according to claim 27 wherein X comprises a $-(CH_2)_m-$ group, where m is an integer between 1 and 30, inclusive, and one or more of the methylene groups is optionally replaced by O, S, N, C, B, Si, P, C=O, O=S=O, a heterocyclic group, an aromatic group, an NR_a group, a CR_b group, a CR_cR_d group, or a SiR_eR_f where R_a , R_b , R_c , R_d , R_e , and R_f are, each independently, a bond, H, a hydroxyl group, a thiol group, a carboxyl group, an amino group, an alkyl group, an alkoxy group, an alkenyl group, a heterocyclic group, an aromatic group, or part of a ring group.

29. (Original) A charge transport material according to claim 27 wherein the charge transport material comprises the following formula:



where n is an integer between 1 and 30 and R_1 , R_2 , R_3 , and R_4 are, each independently, an alkyl group, an alkenyl group, a heterocyclic group, or an aromatic group.